UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/702,376	11/05/2003	Mingwei Liu	9896-000012	8364

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EXAMINER
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ART UNIT	PAPER NUMBER
2616	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/702,376	LIU ET AL.
	Examiner	Art Unit
	ABDULLAH RIYAMI	2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>11 June 2008</u>.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-17</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>1-17</u> is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☒ All   b)☐ Some * c)☐ None of:
      1.☒ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on

06/11/2008 has been entered.

Claim Rejections - 35 USC § 103

2.   This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

3.   The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

> 1.   Determining the scope and contents of the prior art.
> 2.   Ascertaining the differences between the prior art and the claims at issue.

3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating
        obviousness or nonobviousness.

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Ramsden et al. (EP 1006751 A2) in view of Scholten (US 2003/0218981 A1).

As per claim 1, Ramsden et al. discloses a flow control method for Virtual Container

VC-Trunks in metropolitan-area network equipment (see paragraph 7 and column 11,

paragraph 27, lines 30-33, see figures 1 and 4) comprising:

determining, by a receiving-end equipment whether there is congestion at a VC- Trunk

of the receiving-end equipment, if there is congestion at the VC-trunk sending out flow

control packet with a VC-Trunk tag of the VC-Trunk to a transmission-end equipment

(see paragraph 30, lines 50-52, and column 15, paragraph 32, lines 40-41);

pausing, by the transmission-end equipment, a service transmission of the VC-trunk

according to the VC-Trunk tag in the flow control packet (see paragraph 30, column 19,

paragraph 37, lines 8-31).

Ramsden et al. does not expressly disclose determining by a receiving-end

equipment, whether there is congestion at a single VC-Trunk of a plurality of VC Trunks

of a physical port of the receiving-end equipment, if there is congestion at the VC-Trunk,

sending a flow control packet with a VC-Trunk tag indicating the VC-Trunk to a

transmission-end equipment.

Scholten discloses determining by a receiving-end equipment, whether there is

congestion at a single VC-Trunk of a plurality of VC Trunks (see figure 2, plurality of

clients and paragraph 22) of a physical port of the receiving-end equipment, if there is

congestion at the VC-Trunk, sending a flow control packet with a VC-Trunk tag

indicating the VC-Trunk to a transmission-end equipment (see figure 4 and paragraph

33 and 38-39).

Ramsden et al. and Scholten are analogous art since they are from the same field of

endeavor flow control in SONET /SDH networks.

At the time of the invention, it would have been obvious to one of ordinary skill in the

art to use Scholten's flow control (see figure 4 and paragraph 22, 33 and 38-39)

technique and apparatus in Ramsden et al.'s apparatus (see figure 1). The motivation to

combine would have been to have a technique and apparatus for performing flow

control in a network by using pause messages for different streams and clients based

on the availability of buffers in transceiver terminals.

As per claim 2, the flow control method further comprising, after pausing the service

transmission of the VC- Trunk initiating, by the transmission-end equipment, a flow

control timer at the transmission-end equipment if the flow control timer expires and no

new flow control packet is received, then waiting resuming, by the transmission-end

equipment, the service transmission of the VC-Trunk (inherent, see paragraph 37).

Same analysis applies to claims 9, 14, and 16.

As per claim 3, the flow control method further comprising, wherein after sending the flow control packet with the VC-Trunk tag to the transmission-end equipment, initiating, by the receiving-end equipment, a flow control timer at the receiving-end equipment and sending the flow control packet in a timely manner until the congestion disappears (inherent, see paragraph 37). Same analysis applies to claim 17.

As per claim 4, the flow control method comprising, the determining whether there is congestion at the VC-Trunk of the receiving-end equipment comprises, calculating, by the receiving-end equipment, the number of the service data packets received at the of every VC-Trunk and determining that there is congestion at the VC-Trunk if the whether said number exceeds a preset flow control threshold (see paragraphs 32 and 33). Same analysis applies to claims 10 and 11.

As per claim 5, the flow control method comprising, the determining whether there is congestion at the VC-Trunk of the receiving-end equipment comprises, determining, by the receiving-end equipment, whether a First In First Out (FIFO) buffer of the VC-Trunk at the receiving-end transmission equipment is overflow and determining that there is congestion at the VC-Trunk if the FIFO buffer is overflow (see paragraph 32 and 33). Same analysis applies to claim 12.

As per claim 6, the flow control method, wherein the flow control packet comprises an 802.3x pause frame and the VC-Trunk tag as a header is added to 802.3x pause frame (see column 19, lines 3-5 and column 20, lines 9-15).

As per claim 7, the flow control method, wherein VC-Trunk tags correspond to VC-Trunks one by one, and a length of the VC-Trunk tag is determined by the number of

VC-Trunks (see column 15, lines 8-16 and column 14, lines 5-10, (in virtual

concatenation, each group representing the data packet for transmission is given an

identifier)).

As per claim 8, Ramsden et al. discloses a receiving-end apparatus for flow control

of Virtual Container (VC) Trunks (see paragraph 7 and column 11, paragraph 27, lines

30-33, see figures 1 and 4) comprising: a physical port comprising a plurality of VC-

Trunks (see paragraph 7 and column 11, paragraph 27, lines 30-33, see figures 1 and

4), determining, by a receiving-end equipment whether there is congestion at a VC-

Trunk of the receiving-end equipment, if there is congestion at the VC-trunk sending out

flow control packet with a VC-Trunk tag of the VC-Trunk to a transmission-end

equipment (see paragraph 30, lines 50-52, and column 15, paragraph 32, lines 40-41);

pausing, by the transmission-end equipment, a service transmission of the VC-trunk

according to the VC-Trunk tag in the flow control packet (see paragraph 30, column 19,

paragraph 37, lines 8-31).

Ramsden et al. does not expressly disclose a first unit determining by a receiving-

end equipment, whether there is congestion at a single VC-Trunk of a plurality of VC

Trunks of a physical port of the receiving-end equipment, if there is congestion at the

VC-Trunk, sending a flow control packet with a VC-Trunk tag indicating the VC-Trunk to

a transmission-end equipment.

Scholten discloses determining by a first unit receiving-end equipment, whether

there is congestion at a single VC-Trunk of a plurality of VC Trunks (see figure 2,

plurality of clients and paragraph 22) of a physical port of the receiving-end equipment,

if there is congestion at the VC-Trunk, sending a flow control packet with a VC-Trunk

tag indicating the VC-Trunk to a transmission-end equipment (see figure 4 and

paragraph 33 and 38-39).

Ramsden et al. and Scholten are analogous art since they are from the same field of

endeavor flow control in SONET /SDH networks.

At the time of the invention, it would have been obvious to one of ordinary skill in the

art to use Scholten's flow control (see figure 4 and paragraph 22, 33 and 38-39)

technique and apparatus in Ramsden et al.'s apparatus (see figure 1). The motivation to

combine would have been to have a technique and apparatus for performing flow

control in a network by using pause messages for different streams and clients based

on the availability of buffers in transceiver terminals.

As per claim 13, Ramsden et al. discloses a transmitting-end apparatus for flow

control of Virtual Container (VC) Trunks (see paragraph 7 and column 11, paragraph 27,

lines 30-33, see figures 1 and 4) comprising: a physical port comprising a plurality of

VC-Trunks (see paragraph 7 and column 11, paragraph 27, lines 30-33, see figures 1, 2

and 4), determining, by a transmitting-end equipment whether there is congestion at a

VC- Trunk of the transmitting-end equipment, if there is congestion at the VC-trunk

sending out flow control packet with a VC-Trunk tag of the VC-Trunk to a transmission-

end equipment (see paragraph 30, lines 50-52, and column 15, paragraph 32, lines 40-

41);

pausing, by the transmission-end equipment, a service transmission of the VC-trunk

according to the VC-Trunk tag in the flow control packet (see paragraph 30, column 19, paragraph 37, lines 8-31).

Ramsden et al. does not expressly disclose a first unit determining by a transmitting-end equipment, whether there is congestion at a single VC-Trunk of a plurality of VC Trunks of a physical port of the transmitting-end equipment, if there is congestion at the VC-Trunk, sending a flow control packet with a VC-Trunk tag indicating the VC-Trunk to a transmission-end equipment.

Scholten discloses determining by a first unit receiving-end equipment, whether there is congestion at a single VC-Trunk of a plurality of VC Trunks (see figure 2, plurality of clients and paragraph 22) of a physical port of the transmitting-end equipment, if there is congestion at the VC-Trunk, sending a flow control packet with a VC-Trunk tag indicating the VC-Trunk to a transmission-end equipment (see figure 4 and paragraph 33 and 38-39).

Ramsden et al. and Scholten are analogous art since they are from the same field of endeavor flow control in SONET /SDH networks.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to use Scholten's flow control (see figure 4 and paragraph 22, 33 and 38-39) technique and apparatus in Ramsden et al.'s apparatus (see figure 1). The motivation to combine would have been to have a technique and apparatus for performing flow control in a network by using pause messages for different streams and clients based on the availability of buffers in transceiver terminals.

As per claim 15, Ramsden et al. discloses a system for flow control of Virtual

Container (VC) Trunks (see paragraph 7 and column 11, paragraph 27, lines 30-33, see

figures 1 and 4) comprising: a receiving-end equipment for determining whether there is

congestion at a VC- Trunk of the receiving-end equipment, if there is congestion at the

VC-trunk sending out flow control packet with a VC-Trunk tag of the VC-Trunk (see

paragraph 30, lines 50-52, and column 15, paragraph 32, lines 40-41);

a transmission-end equipment configured for pausing a service transmission of the VC-

trunk according to the VC-Trunk tag in the flow control packet (see paragraph 30,

column 19, paragraph 37, lines 8-31).

Ramsden et al. does not expressly disclose a determining by a receiving-end

equipment, whether there is congestion at a single VC-Trunk of a plurality of VC Trunks

of a physical port of the receiving-end equipment, if there is congestion at the VC-Trunk,

sending a flow control packet with a VC-Trunk tag indicating the VC-Trunk to a

transmission-end equipment.

Scholten discloses determining by a receiving-end equipment, whether there is

congestion at a single VC-Trunk of a plurality of VC Trunks (see figure 2, plurality of

clients and paragraph 22) of a physical port of the receiving-end equipment, if there is

congestion at the VC-Trunk, sending a flow control packet with a VC-Trunk tag

indicating the VC-Trunk to a transmission-end equipment (see figure 4 and paragraph

33 and 38-39).

Ramsden et al. and Scholten are analogous art since they are from the same field of

endeavor flow control in SONET /SDH networks.

At the time of the invention, it would have been obvious to one of ordinary skill in the

art to use Scholten's flow control (see figure 4 and paragraph 22, 33 and 38-39)

technique and apparatus in Ramsden et al.'s apparatus (see figure 1). The motivation to

combine would have been to have a technique and apparatus for performing flow

control in a network by using pause messages for different streams and clients based

on the availability of buffers in transceiver terminals.

Conclusion

6.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. See form 892.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to ABDULLAH RIYAMI whose telephone number is

(571)270-3119. The examiner can normally be reached on Monday through Thursday

8am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Huy D. Vu can be reached on (571) 272-3155. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Abdullah Riyami/
Examiner, Art Unit 2616

/Huy D. Vu/

Supervisory Patent Examiner, Art Unit 2616